

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property  
Organization  
International Bureau



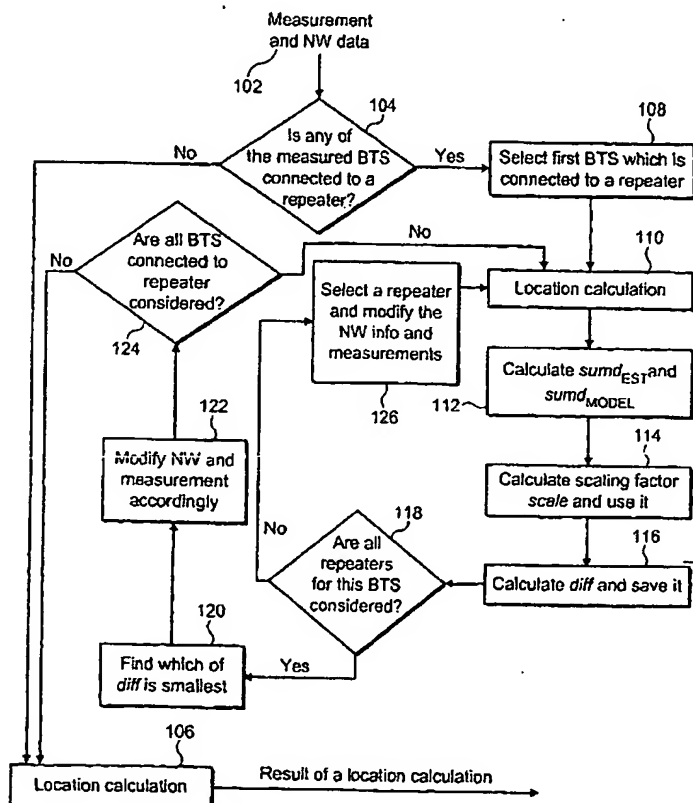
(43) International Publication Date  
31 December 2003 (31.12.2003)

PCT

(10) International Publication Number  
**WO 2004/002182 A1**

- (51) International Patent Classification<sup>7</sup>: **H04Q 7/38**, (81) Designated States (*national*): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZM, ZW.
- (21) International Application Number: PCT/IB2002/003198
- (22) International Filing Date: 21 June 2002 (21.06.2002)
- (25) Filing Language: English
- (26) Publication Language: English
- (71) Applicant (*for all designated States except US*): NOKIA CORPORATION [FI/FI]; Keilalahdentie 4, FIN-02150 ESPOO (FI).
- (72) Inventor; and
- (75) Inventor/Applicant (*for US only*): POYKKO, Sami [FI/FI]; Keijumaki 1172, FIN-02130 Espoo (FI).
- (74) Agent: PAGE WHITE & FARRER; 54 Doughty Street, London WC1N 2LS (GB).
- (84) Designated States (*regional*): ARIPO patent (GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).
- Published:  
— with international search report
- For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.*

(54) Title: SIGNAL PATH DETECTION FOR WIRELESS NETWORKS INCLUDING REPEATERS



(57) **Abstract:** There is disclosed a method of determining the path of a signal between a donor network element and a remote station, the donor network element being associated with at least one repeater, comprising the steps of: receiving at the remote station a plurality of signals associated with a plurality of network elements; calculating an estimate of the distance between the remote station and each network element, including an estimate of the distance between the remote station and each repeater associated with the donor network element; determining the one of said estimates of the distance between the donor network element and at least one, associated repeater and remote station which most closely approximates to the distance between the other network elements and the remote station; and selecting that donor network element/repeater to be the source of the signal.